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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,060	04/15/2004	Junichi Rckimoto	SONYJP 3.0-369	9482
530 7590 08/22/2007 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER MAHMOUDZADEH, NIMA	
			ART UNIT 2609	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,060	REKIMOTO, JUNICHI	
	Examiner	Art Unit	
	Nima Mahmoudzadeh	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13, 15-17, and 19- 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Salonidis et al. (US Patent No. 6,865,371).

Regarding claim 1, Salonidis et al. teach a data communication system for enabling a plurality of communication apparatuses to perform data communication via a communication medium, the data communication system comprising:

timing information sharing section (Column 2, lines 40-65) configured to share timing information related to a user operation and release of user operation between devices performing mutual communication (Column 2, lines 66 - 67), in response to user operation and release of user operation performed at a same timing against respective connection (Column 4, lines 6-8) designation section of apparatuses (Fig.1, 101 and 102) constituting respective counterparts for communication; and

searching section configured (Column 2, lines 54-59) to search over said communication medium and specify as a communication counterpart an apparatus sharing timing information (Column 2, lines 66-67) related to said user operation and said release of user operation; wherein

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each of said communication apparatuses (Fig. 1, 101 and 102) includes a user interface (Column 8, lines 17-23) configured to accept a user operation (Column 6, lines 3-6), and said user operation and release of user operation related to part of said user interfaces is allocated to a connection designation section configured to designate network connections (Column 8, lines 24-25).

Regarding claim 2, Salonidis et al. teach the data communication system according to claim 1, wherein said searching (Column 2, lines 14-17) section collectively transmits connection request packets (Column 2, lines 20-22) including timings (column 2, lines 23-26) of said user operation and said release of user operation for each of said communication apparatuses (Column 2, lines 27-31); reads timing information related to user operation and release of user operation from a connection request packet received from other apparatuses (Fig. 3); and compares said timing information related to user operation and release of user operation with its own timing information of user operation and release of user operation (Fig. 2); wherein

mutual identification (Column 3, lines 7-11) between apparatuses is performed upon matching carried out as a result of said comparison of timing information (Fig. 2).

Regarding claim 3, Salonidis et al. teach the data communication system according to claim 2, wherein said connection request packet further comprises time interval (Column 3, lines 7-11) between user operation and release of user operation

and network identification information of a transmitting counterpart (Column 1, lines 58-62).

Regarding claim 4, Salonidis et al. teach the data communication system according to claim 2, wherein said connection request packet further comprises key information (Column 2, lines 62-64) to be used for establishing network connection.

Regarding claim 5, Salonidis et al. teach a data communication apparatus for performing data communication via a communication medium, comprising:

user interfaces configured to accept user operation (Column 8, lines 17-22);

connection designation section (Column 8, lines 31-39) configured to designate network connection for user operation and release of user operation allocated to part of said user interfaces (Column 8, lines 17-22);

timing information storage section (Column 4, lines 40-46) configured to store timing (Column 4, lines 40-46) information related to said user operation and release of user operation, in response (Fig. 1, 112) to said user operation and release of user operation (Fig. 1, 113) against said connection designation section; and

searching section configured to search over said communication medium (Column 2, lines 47-52) and specify as a communication counterpart an apparatus sharing timing information related to said user operation and said release of user operation (Column 2, lines 54-62).

Regarding claim 6, Salonidis et al. teach the data communication apparatus according to claim 5, wherein said searching section comprises:

packet transmitter (Column 2, lines 20-22) configured to collectively transmit connection request packets including timings of said user operation (Fig. 1, 114) and said release (Fig. 1, 115) of user operation in response to said release of user operation against said connection designation (Fig. 1, 198) section;

packet receptor (Column 2, lines 14-17 & Fig. 2, 102) configured to receive connection request packets (Fig. 1, 113) from another data communication apparatus within a time interval (Column 2, lines 23-26) from said release of user operation against said connection designation section (Column 2, lines, 27-31); and

communication counterpart identification (Column 2, lines, 27-31 and Fig. 1 198) section configured to read timing information (Column 3, lines, 7-9) related to user operation and release of user operation from a connection request packet received (Fig. 1, 113) from said other communication apparatus; compare said timing (Fig. 2, 220) information related to user operation and release of user operation stored in said timing information storage (Column 4, lines, 40-46) section; and perform mutual identification (Column 3, lines 7-11) between apparatuses upon matching as a result of said comparison.

Regarding claim 7, Salonidis et al. teach the data communication apparatus according to claim 6, wherein said connection request packets (Fig. 1) include one's own

network identification information and time interval between user operation and release of user operation (Column 1, lines 58-63).

Regarding claim 8, Salonidis et al. teach the data communication apparatus according to claim 6, wherein said communication counterpart (Fig. 1,102) identification section (Column 1, 58-63) identifies whether or not a transmission source of a connection request packet constitutes a communication counterpart upon determining whether or not a difference of a time interval from releasing of user operation of said connection designation section of one's own device to a time of receiving a connection request packet is less than a limit of error (As noted, in case of lack of synchronization between two apparatuses, they are not able to communicate with each other. Column 3, lines 58-66); and determining whether or not a difference between a time interval from an operation of said connection designation section stored in said timing information storage section (Column 4, lines 40-46) to said release of user operation and said time interval (Column 4, lines 40-46) included in said received connection request packet constitutes a limit of error (As noted, in case of lack of synchronization between two apparatuses, they are not able to communicate with each other. By synchronization communication link will be reinstated. Column 3, lines 58-66).

Regarding claim 9, Salonidis et al. teach the data communication apparatus according to claim 5, wherein said user operation against said connection designation section is processed as a request for network connection (Fig.1, 114 and 115) if said

user operation against said connection designation section differs from a usual interface operation (Column 4, lines 6-8).

Regarding claim 10, Salonidis et al. teach the data communication apparatus according to claim 5, wherein said user operation against said connection designation section is processed as a usual interface operation (Column 4, line 6-8) if a time interval from said user operation against said connection designation section to the user releasing said apparatus is less than a limit value (Fig.2, 220), and is processed as a network connection request if said time interval exceeds said limit value (Fig.2, 220).

Regarding claim 11, Salonidis et al. teach the data communication apparatus according to claim 5, further comprising collision detector (Listening mode is main factor in collision detector in a data communication apparatus. Column 2, lines 54-65) configured to detect a collision in response to arrival of two or more connection request packets (Column 2, lines 40-43) within a prescribed time from release of user operation against said connection designation section (Fig.1, 102).

Regarding claim 12, Salonidis et al. teach the data communication apparatus according to claim 11, further comprising connection request retry (If the connection fails, the connection attempt is performed until the connection is successfully established. Column 7, lines 58-63) section configured to request retrial of operation of said connection designation section in response to detection of collision (Listening

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mode is main factor in collision detector in a data communication apparatus. Column 2, lines 54-65).

Regarding claim 13, Salonidis et al. teach the data communication apparatus according to claim 12, further configured to store all network identification information (Column 4, lines 40-46) included in each connection request packet received at time of collision (Listening mode is main factor in collision detector in a data communication apparatus. Column 2, lines 54-65); and to accept only a connection request packet from a transmission source possessing stored network identification information at time of retrying said connection request (If the connection fails, the connection attempt is performed until the connection is successfully established. Column 7, lines 58-63).

Regarding claim 15, Salonidis et al. teach the data communication apparatus according to claim 5, further comprising provider configured to provide feedback to the user in response to identification of a communication (Column 8, lines 16-22) counterpart by said communication counterpart identification section (Column 1, 58-63).

Regarding claim 16, Salonidis et al. teach a data communication method for performing data communication via a communication medium, comprising:

connection designation step (Column 2, lines 47-53) of designating network connection for user operation and release of user operation against a user interface (Column 8, lines 16-22);

timing information storing step (Column 4, lines 40-46) of storing timing information related to said user operation and release of user operation (Column 3, lines 12-14) of said connection designation step; and

searching step of searching (Column 2, lines 47-53) over said communication medium and specifying as a communication counterpart an apparatus sharing timing information (Column 1, lines 44-47) related to said user operation and said release of user operation.

Regarding claim 17, Salonidis et al. teach a method of establishing connection between information apparatuses, comprising:

first acquisition step (Fig.3, 301) of acquiring a first time difference comprising a difference between a first time (Fig.3, 311) on which a first physical operation is carried out on an operation section utilized for operation of a first information apparatus (Fig.3, 360) and a second time on which a second physical operation (Fig.3, 370) is carried out on said operation section;

second acquisition (Fig.3, 302) step of acquiring a second time difference comprising a difference between a third time corresponding to said first time and generated on a second information apparatus (Fig.3, 312), and a fourth time corresponding to said second time; and

connection establishing step (Fig.3, 313) of establishing connection (Fig.3, 321) between said first and said second information apparatuses based on said first and said second time differences (Fig.3, 311); wherein

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said first and said second physical operations (Fig.3, 311) comprise a series of operations (Fig.3, 301 and 302) performed against said operation section.

Regarding claim 19, Salonidis et al. teach a method of establishing connection between information apparatuses, comprising:

first acquisition step of acquiring a first time on which a first physical operation is carried out (Fig.3, 320) on an operation section utilized for operation of a first information apparatus (Fig.3, 360);

second acquisition step of acquiring a second time (Fig.3, 312) on which a second physical (Fig.3, 370) operation is carried out on said operation section;

third acquisition step of acquiring a third time (Fig.3, 313) and a fourth time (Fig.3, 314) corresponding to said first time and said second time, and generated on a second information apparatus (Fig. 3, 370); and

connection establishing step of establishing connection (Fig.3, 321) between said first and said second information apparatuses (Fig.3, 370) based on said first to fourth times; wherein

said first and said second physical (Fig.3, 311) operations comprise a series of operations performed against said operation section.

Regarding claim 20, Salonidis et al. teach a connection establishing apparatus for establishing connection between information apparatuses, comprising:

operation section configured to enable a user to perform a physical operation
(Column 8, lines 16-22);

first acquisition section configured to acquire a first time difference comprising a difference between a first time on which a first physical operation is carried out (Column 8, lines 16-22) on said operation section utilized for operation of a first information apparatus (Fig.3, 360) and a second time on which a second physical operation (Column 8, lines 16-22) is carried out on said operation section;

second acquisition section configured to acquire a second time difference (Fig.3, 312) comprising a difference between a third time corresponding to said first time and generated on a second information apparatus (Fig.3, 370), and a fourth time (Fig.3, 313) corresponding to said second time; and

connection establishing section configured to establish connection (Fig.3, 321) between said first and said second information apparatuses (Fig.3, 360 and 370) based on said first and said second time differences (Fig.3, 311); wherein

said first and said second physical operations (Column 8, lines 16-22) comprise a series of operations performed against said operation section.

Regarding claim 21, Salonidis et al. teach a connection establishing system for establishing connection between information apparatuses, comprising:

first acquisition step of acquiring a first time difference comprising a difference between a first time on which a first physical operation is carried out (Column 8, lines

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16-22) on an operation section utilized for operation of a first information apparatus

(Fig.3, 360) and a second time on which a second physical operation (Column 8, lines

16-22) is carried out on said operation section;

second acquisition step of acquiring a second time difference (Fig.3, 312) comprising a difference between a third time corresponding to said first time and generated on a second information apparatus (Fig.3, 370), and a fourth time (Fig.3, 313) corresponding to said second time; and

connection establishing step of establishing connection (Fig.3, 321) between said first and said second information apparatuses (Fig.3, 360 & 370) based on said first and said second time differences (Fig.3, 311); wherein

said first and said second physical operations (Column 8, lines 16-22) comprise a series of operations performed against said operation section.

Regarding claim 22, Salonidis et al. teach a computer program written in computer-readable form for making a computer execute a process of establishing connections between information apparatuses, the process comprising:

first acquisition step of acquiring a first time difference comprising a difference between a first time on which a first physical operation is carried out (Column 8, lines 16-22) on an operation section installed on an apparatus and a second time on which a second physical operation (Column 8, lines 16-22) is carried out on said operation section;

a second acquisition step of acquiring a second time difference (Fig.3, 312) comprising a difference between a third time (Fig.3, 312) corresponding to said first time and generated on an information apparatus constituting a connection counterpart (Fig.3, 302), and a fourth time corresponding (fig.3, 313) to said second time; and

connection establishing step of establishing connection (Fig.3, 321) between said first and said second information apparatuses (Fig.3, 360 and 370) based on said first and said second time differences (Fig.3, 311); wherein

said first and said second physical operations (Column 8, lines 16-22) comprise a series of operations carried out against said operation sections.

Regarding claim 23, Salonidis et al. teach a data communication system for enabling a plurality of communication apparatuses to perform data communication via a communication medium, the data communication system comprising:

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timing information sharing (Column 2, lines 40-65) means for sharing timing information related to a user operation and release of user operation between devices performing mutual communication (Column 2, lines 66-67), in response to user operation and release of user operation performed at a same timing against respective connection (Column 4, lines 6-8) designation section of apparatuses (Fig. 1, 101 and 102) constituting respective counterparts for communication; and

searching (Column 2, lines 54-59) means for searching over said communication medium and specify as a communication counterpart an apparatus sharing timing information (Column 2, lines 66-67) related to said user operation and said release of user operation; wherein

each of said communication apparatuses (Fig. 1, 101 and 102) includes a user interface (Column 8, lines 17-23) for accepting a user operation (column 6, lines 3-6), and said user operation and release of user operation related to part of said user interfaces is allocated to a connection designation means for designating network connections (Column 8, lines 24-25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salonidis et al. (US Patent No. 6,865,371) in view of Gehrmann (<http://grouper.ieee.org>).

Regarding claim 14, Salonidis et al. teach the data communication apparatus according to claim 6, except generator configured to generate a public key under a public key encryption method; wherein said packet transmitter transmits a connection request packet including said public key. However, Gehrmann teaches generating a public key under a public key encryption which the packets transmitted includes said public key to encryption (Page 34, 5.2.3.2 and page 24 section 5.1.2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify data communication between apparatuses

of Salonidis et al. to include encryption features taught by Gehrmann in order to have a secure data communication link.

Regarding claim 18, Salonidis et al. teach the method according to claim 17, except at least one of outputting step of outputting information of a first type for generating an encryption key in receivable form for said second apparatus, and a third acquisition step of acquiring information of a second type for generating an encryption key outputted by said second information apparatus; and communication step of performing communication utilizing encryption process based on said encryption key, after establishment of said connection . However, Gehrmann teaches at least one of outputting step of outputting information of a first type for generating an encryption key in receivable form for said second apparatus (Page 34, 5.2.3.2 and page 24 section 5.1.2). and a third acquisition step of acquiring information of a second type for generating an encryption key outputted (Page 34, 5.2.3.2 and page 24 section 5.1.2) by said second information apparatus; and communication step of performing communication utilizing encryption process based on said encryption key, after establishment of said connection (Page 34, 5.2.3.2 and page 24 section 5.1.2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify data communication between apparatuses of Salonidis et al. to include encryption features taught by Gehrmann in order to have a secure data communication link.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johansson et al. (US Patent Application No. 2002/0044549) teach efficient scatternet forming.

Benayoun et al. (US Patent No. 6,806,866) teach system and method for establishing wireless connection.

7. Any responses to this Office Action should be **faxed** to (571) 273-8300 or **mailed** to:

Commissioner for Patent
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nima Mahmoudzadeh whose telephone number is (571) 270-3527. The examiner can normally be reached on Monday - Friday 7:30am - 5:00 pm EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Q. Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nima Mahmoudzadeh

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